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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,887	02/06/2004	Upen Bharwada	03-10	7465

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ANDREW ALEXANDER & ASSOCIATES
3124 KIPP AVENUE
P.O. BOX 2038
LOWER BURRELL, PA 15068

EXAMINER

MENON, KRISHNAN S

ART UNIT PAPER NUMBER

1723

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/773,887

Applicant(s)

BHARWADA, UPEN

Examiner

Krishnan S. Menon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim 2-8 are pending as amended 8/21/06.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2-8 are rejected under 35 U.S.C. 102(b) as being anticipated by, or under 35 USC 103(a) as being obvious over, Al-Samadi (US 5,501,798), with evidence from Johnson et al (US 6,881,336).

Claim 2 recites an apparatus ...having an MF or a UF membrane filter. The rest of the claim, "providing pretreatment of feed water for a downstream reverse osmosis unit ..." is only intended use, and not positively recited as a structural limitation to the apparatus claim.

Al-Samadi in figure 3 teaches an apparatus comprising a MF membrane and an RO membrane in series, permeate from the MF membrane being the feed for the RO membrane as claimed. Al-Samadi teaches Zenon Environmental MF membrane (suction –driven immersed membrane) and Filmtec FT-30 RO membranes in the working example. Thus Al-Samadi anticipates the claims.

Al Samadi uses commercial membranes and does not teach what specific feed spacers to be used in the membrane. However, the use of the feed spacer in the range

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claimed is inherent or implied in the reference, and is in a commonly used range in the RO systems, as evidenced by Johnson et al (US 6,881,336), column 6 line 33 – column 7 line 35, wherein spacer thickness from 350 micron – 700 micron are discussed, and in column 7 lines 14-19, Johnson teaches that 500 micron to 2 mm are commonly used. Moreover, claim 2 recites only spacers, and does not recite “feed spacer”. Permeate spacers can be within the range claimed, too.

Al Samadi teaches spiral wound membranes for RO. Desalinating water and use of salt water are intended use. Al Samadi also uses the apparatus for such applications.

Even if the RO membrane is considered as being positively recited, Al-Samadi still anticipates the claims, or at least makes the claims obvious, because Al-Samadi teaches use of MF or UF prefiltration membranes for RO/NF membranes. Al-Samadi teaches a process wherein microfiltration membranes are being taught as enhancing the performance and useful life of reverse osmosis membranes (irrespective of the feed spacer used) – see abstract. Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Al-Samadi to improve the life of RO membranes. The reference also uses commercial membranes. Johnson teaches that commercial membranes have feed spacers within the range claimed (0.5mm - 2mm overlaps the range claimed; 0.5 mm = 500 microns). Johnson also shows at least one example, where the spacer thickness is as low as 350 microns.

With respect to claim 8, Al-Samadi teaches an intake between an ocean and the MF/UF membrane. This claim does not recite that the intake is in fact from the ocean.

Response to Arguments

Applicant's arguments filed 8/21/06 have been fully considered but they are not persuasive. They are addressed above, in the art rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

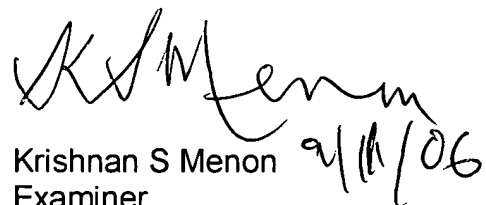
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S. Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Krishnan S Menon
Examiner
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